UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2466

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Ref: 8HWM-FF

Mr. Gary Baughman
Hazardous Waste Facilities Unit Leader
Colorado Department of Health
4300 Cherry Creek Drive South
Denver, CO 80222-1530

SUBJECT: Comments on OU 7 TM, Revised Workplan

Dear Mr. Baughman:

The purpose of this letter is to transmit EPA's comments and those of our contractor (PRC) on the subject document.

In general, EPA feels that the TM needs to undergo extensive revision and recommends that CDH withhold approval until the TM is properly revised according to the attached comments. In order for DOE to obtain a faster approval from the regulatory agencies on the phase II field work, DOE should revise and resubmit the field sampling plan (FSP) as soon as possible. Other sections of the TM which were impacted by the comments could be revised at a later time. In this manner, new investigation efforts can be implemented sooner.

Please do not hesitate to contact Arturo Duran of my staff at 294-1080 with any questions or comments you may have.

Sincerely,

for Martin Hestmark, Manager
Rocky Flats Project

Enclosures
cc: Jessie Roberson, DOE
Jen Pepe, DOE
Joe Schieffelin, CDH
Dave Norbury, CDH
Arturo Duran, EPA

EPA's Comments on the OU 7 TM
Revised Workplan

General Comments

- The text states that the purpose of the proposed modified field sampling plan (FSP) is to gather information to support a risk assessment. The risk assessment is a useful tool to evaluate the site risks to determine whether or not an action is warranted for the site. In the case of OU 7, the Present Landfill, it has already been decided that an action needs to take place pursuant to closure requirements under RCRA. The current closure approach for OU 7 consists of a landfill cover based on the presumptive remedy. Therefore, a risk assessment is not required to justify the closure action. However, a risk assessment will be required to evaluate post-closure site risks.

- There are several inconsistencies throughout the text regarding the East Landfill Pond sediments. The text states in the executive summary that the sediments should be sampled in order to determine whether the sediments should be remediated or not. Later, in Section 5, page 5-11, it is stated that five out of the 12 potential contaminants of concern (PCOCs) for the sediments, based on previous sampling efforts, exceeded the TBC or PRG by at least one order of magnitude. The text further states that it is unlikely that additional data will affect the decision to remediate the pond sediments. The proposed FSP in this TM intends to take three additional samples from the pond sediments. Because the available data already support a decision to remediate the pond sediments, the need for further sampling solely for characterization purposes is questionable. EPA feels that further sampling of the pond sediments may be warranted to support the selection of a remedial technology or remedial strategies. For example, sediment sampling could be useful for the following purposes: to determine the total volume of sediments to be remediated, to perform contaminant leachability tests (TCLP), and to perform treatability studies. EPA suggests that proposed pond sediment sampling activities be revised in order to redefine the scope of the effort and its purposes.

- The Phase I RI report included in this TM failed to adequately evaluate the effectiveness of some physical structures such as slurry walls and interceptor trench systems installed around the OU 7 area. Specific comments regarding the effectiveness of these physical structures are detailed in the specific comments below and in PRC comments.

- The Phase I RI report also failed to evaluate the fate and transport of contaminants within the unsaturated zone. This is critical information for closing hazardous waste in place. Ground water impacts from sources of contamination left in place need to be fully evaluated and understood. In this manner, the appropriate cover design and post-closure care monitoring plan can be properly developed. This TM needs to include a detailed discussion on the behavior of the contaminants present in OU 7.

- Due to major flaws with the Phase I RI report, EPA is unable to determine whether there are any field data gaps within the OU 7 area. If it turns out that field data gaps exist after the TM is revised, then EPA will require additional field sampling activities to be performed.

Specific Comments

Section 2.5.4.1, Transect AA-AA': This section discusses transect BB-BB' instead of transect AA-AA'. This needs to be revised to refer to the appropriate location being discussed.

Section 2.5.4.1, Transect BB-BB'': North Side. Change to "Transect CC-C''."

Section 2.5.4.1, Transect CC-CC': South Side. The conclusion in this section that the interceptor trench system is effective in this location because of differences between the saturated thickness of both alluvial wells is not well supported. Differences in saturated thickness could be due to a slope area or any other lithology differences. It is not appropriate to rely only on the saturated thickness of the wells to evaluate the effectiveness of the interceptor trench system. In addition, looking at Table 2-7, the water-level elevation between the two wells is about the same (0.03 ft difference). This may be a good indication that the interceptor trench system is not effective. This section needs to be revised to provide better justification of the conclusion or the conclusion should be changed.

Section 2.5.4.1, Transect DD-DD': Evaluation Slurry Wall. This section states that based on the well hydrograph and isopach maps of well 6787 and 6887, ground water appears to be flowing over and/or through the slurry wall. Instead of concluding that the slurry wall is not effective at this location, the text argues that it is possible that the well pair was not properly positioned on either side of the slurry wall or that the slurry wall does not extend this far to the east. EPA feels that the relative location of wells from the slurry wall in question should be known. If the location of the slurry wall is unknown, then efforts to locate it using geophysical techniques should be performed. This section needs to be revised to provide better justification of the conclusion or the conclusion should be changed.

Transect EE-EE': Evaluation of the Slurry Wall. Change to "Transect DD-DD'."

Section 6.2, Surface Soils, page 6-2. The FSP proposes collecting 39 additional surficial soil samples at 34 hotspot locations identified from previous sampling efforts for confirmation purposes. EPA feels that in order to confirm adequacy of previous data, fewer surficial samples will be sufficient. EPA recommends that five samples be collected for confirmation purposes. If it is determined that surficial soil data gaps exist within the OU 7 or East Landfill Pond area, additional surficial soil samples may need to be taken.

Section 6.2.1, Proposed Field Sampling Activities. The text states that subsurface soil samples will be collected using the hand auger method outlined in Geotechnical SOP.08, Surface Soil Sampling (EG&G 1992c). This is inconsistent with Section 6.3.1 which suggests the use of a hollow-stem auger equipped for continuous core sampling in accordance with Geotechnical SOP.02. It appears that the wrong SOP is referenced in this case. The hand auger method is not appropriate for collection of subsurface soil samples. This section needs to be revised accordingly to include the appropriate drilling technique and respective SOP.

In addition, it is not clear whether subsurface soil samples will be collected for characterization purposes. EPA feels that it will be worthwhile to take advantage at each well location to collect subsurface soils during the drilling. In this manner, further delineation of the extent of contamination of the unsaturated soils can be assessed. EPA suggests that the FSP be revised to include subsurface soils collection and characterization. The appropriate analytical suite for subsurface soil sample analysis needs to be developed and included in this TM.

Section 6.3, Ground Water. EPA feels that the proposed eight well locations are adequate as a starting point to evaluate the three objectives outlined in the last paragraph of this page. EPA is concerned that the results of this sampling effort may suggest that additional sampling is required to fully evaluate the three objectives. If this turns out to be the case, then EPA will require additional sampling to be done. This section should include this possibility.

Section 6.4, Field Activities Related to Landfill Cap Design. EPA agrees that information on the physical properties of the soils and gas emission rates are useful for the selection of the landfill cap design. However, EPA feels that the evaluation of the appropriate landfill cap design for OU 7 may require additional information on the fate and transport of contaminants within the unsaturated zone. For example, contaminant leachability test columns, leachability transport models and TCLP analysis will provide crucial information to evaluate and select the appropriate cap design. EPA suggests that the scope of this

section be expanded to include the above field activities. It is important to understand the behavior of contaminants present at OU 7 and their migration potential to ground water. One of the main objectives of the closure of OU 7 is to stop sources impacting ground water quality.